

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1, 4, 7-9, 12 and 14-20, and 23-30 are pending in the application, with claim 1 being the sole independent claim. Claims 2, 21, and 22 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. Applicants reserve the right to prosecute similar or broader claims, with respect to the cancelled claims, in the future. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 112

Claims 1, 2, 4, 7-9, 12, and 14-30 stand rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the enablement requirement. Without acquiescing to the merits of this allegation, Applicants have amended claims 1, 4, 9, 12, 14-20, and 23-30 to accommodate the Examiner's rejection. Applicants have cancelled claims 2, 21, and 22 without prejudice to or disclaimer of the subject matter therein rendering the rejection of claims 2, 21, and 22 under 35 U.S.C. § 112, first paragraph, moot. Accordingly, Applicants respectfully request that the rejection of claims 1, 4, 9, 12, 14-20, and 23-30 under 35 U.S.C. § 112, first paragraph, be reconsidered and withdrawn.

Claims 1, 2, 4, 7-9, 12, and 14-30 stand rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regards as the invention. Without acquiescing to the merits of this allegation, Applicants have amended claims 1, 4, 9, 12, 14-20, and 23-30 to accommodate the Examiner's rejection. Applicants have cancelled claims 2, 21, and 22 without prejudice to or disclaimer of the subject matter therein rendering the rejection of claims 2, 21, and 22 under 35 U.S.C. § 112, second paragraph, moot. Accordingly, Applicants respectfully request that the rejection of claims 1, 4, 9, 12, 14-20, and 23-30 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103

Hobson in view of Fischer in view of Peleg and in view of Shacham

Claims 1, 2, 4, 9, 12, and 14-30 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,209,016 to Hobson et al. (hereafter "Hobson") in view of U.S. Patent No. 6,237,016 to Fischer et al. (hereafter "Fischer") in view of U.S. Patent No. 6,385,634 to Peleg et al. (hereafter "Peleg") in view of U.S. Patent Publication 2002/0039420 to Shacham et al. (hereafter "Shacham"). Applicants respectfully traverse the rejection and provide the following arguments to support patentability.

As previously argued in the Submission Under 37 C.F.R. § 1.114(c) and Preliminary Amendment Under 37 C.F.R. § 1.115 filed on September 21, 2007, Hobson does not teach or suggest at least the feature of "[the] execution unit including at least

two multipliers connected directly with [the] system memory for multiplying data provided from [the] system memory, and at least one adder connected directly with [the] at least two multipliers for applying an addition operation to outputs of [the] at least two multipliers" as recited by claim 1.

As shown in FIG. 2 of its accompanying description, the multipliers included within the co-processor of Hobson are not directly connected to the adders of Hobson. For example, a multiplexer Mx3 is coupled between a multiplier MUL1 and an adder ADD1. Likewise, a multiplexer Mx5 is coupled between a multiplier MUL2 and an adder ADD2. As a result, Hobson does not teach nor suggest at least the feature of "[the] execution unit including at least two multipliers connected directly with [the] system memory for multiplying data provided from [the] system memory, and ***at least one adder connected directly with [the] at least two multipliers*** for applying an addition operation to outputs of [the] at least two multipliers" as recited by claim 1.

The Office Action dated December 31, 2007 (herein "Office Action") alleges an execution unit of Fischer teaches or suggests the aforementioned feature of claim 1. For the reasons to be discussed below, Fischer may not be combined with Hobson to establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is not made out where the modified work does not work for its intended purpose and/or would change the principle of operation of the work being modified. (*see*, M.P.E.P § 2143.01(V) and (VI)).

Modifying Hobson in view of the teachings of Fischer as proposed by the Examiner, would render the co-processor of Hobson unsatisfactory for its intended purpose and/or change Hobson's principle of operation. (*see*, M.P.E.P § 2143.01(V) and

(VI)). The Examiner proposes combining a packed multiply-adder shown in FIG. 2B of Fischer with a co-processor for performing modular multiplication shown in FIG. 2 of Hobson.

According to Hobson, to

enact the P operator on A.B we follow the process outlined below:

- (1) $X = A.B + S$ {S initially zero}
 - (2) $Y = (X.J) \bmod 2^n$ (where J is a pre-calculated constant)
 - (3) $Z = X + Y.N$
 - (4) $S = Z/2^n$
 - (5) $P = S \bmod N$ (N is subtracted from S, if $S \geq N$)
- Thus $P(A.B).sub.N$ (the result in the Montgomery Field of numbers)

(see, Hobson, col. 1, lines 20-29).

As shown in FIG. 2 of Hobson, at least the A, B, S, and N values are stored into a RAM. For example, the B value is stored in a dual B-RAM having 128 bytes. The "values stored in the B-RAM and S-RAM may be summed together." (see, Hobson, col. 7, lines 25-26). According to Hobson,

[d]ata from the B-RAM (bstr) and S-RAM (sstr) are fed serially through subtracters Sub1 and Sub2. The output from Sub1 (bstr) is fed to adder Add1 *via multiplexer Mx3*, where it is summed with the output from Sub2 (sstr). The result is returned via multiplexers Mx7 and Mx8 to the B-RAM.

(see, Hobson, col. 7, lines 30-35).

Combining the packed multiply-adder 244 of Fischer and the co-processor for performing modular multiplication of Hobson as proposed by the Examiner would eliminate the multiplexer Mx3 from the co-processor for performing modular multiplication of Hobson. As a result, the co-processor for performing modular multiplication of Hobson would not be able to sum the values stored in the B-RAM and S-RAM as shown in (1) to enact the P operator on A.B. Therefore, combining the

packed multiply-adder of Fischer with the co-processor for performing modular multiplication of Hobson would render Hobson unsatisfactory for its intended purpose and/or change Hobson's principle of operation in performing modular multiplication.

Further, it appears to the Applicants that the Examiner developed this argument after reading Applicants' instant specification, i.e., through hindsight. Thus, there is no motivation to apply the combination of Hobson, Fischer, Peleg and Shacham as done in the Office Action absent the use of impermissible hindsight by the Examiner. *see, KSR v. Teleflex*, 550 U.S. ____ (2007) (stating that a factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.); *Interconnect Planning Corp. v. Feil*, 777 F.2d 1132, 227 U.S.P.Q. 543 (Fed. Cir. 1985) (stating that when prior art references require selective combination to render obvious a subsequent invention, it is an error to reconstruct the patentee's claimed invention using the patentee's claims as a blueprint, there must be other motivation.); *In re Gorman*, 933 F.2d 982, 18 U.S.P.Q.2d 1885 (Fed. Cir. 1991) (stating it was impermissible to use applicants's structure as a template to select elements from a reference or references to fill in the gaps); *Para-Ordnance Manufacturing, Inc. v. SGS Importers International, Inc.*, 73 F.3d 1085, 1087, 37 U.S.P.Q.2d 1237, 1239 (Fed. Cir. 1995) ("Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor."). Thus, the combination of Hobson, Fischer, Peleg and Shacham cannot be used to form a *prima facie* case of obviousness.

In summary, the combination of Hobson, Fischer, Peleg and Shacham cannot render obvious claim 1, nor the combination of Hobson, Fischer, Peleg and Shacham be used to form a *prima facie* case of obviousness. Dependent claims 4, 9, 12, 14-20, and

23-30 are likewise not rendered obvious by the combination of Hobson, Fischer, Peleg and Shacham for the same reasons as the independent claim from which they respectively depend and further in view of their own respective features. Applicants have cancelled claims 2, 21, and 22 without prejudice to or disclaimer of the subject matter therein rendering the rejection of claims 2, 21, and 22 under 35 U.S.C. § 103(a) moot. Accordingly, Applicants respectfully request that the rejection of claims 1, 4, 9, 12, 14-20, and 23-30 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

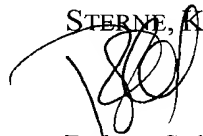
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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Date: 3/25/08

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